

SHEET 1 OF 12
Title: MACULAR DEGENERATION
DIAGNOSTICS AND THERAPEUTICS
Inventors: Stone *et al.* Ref. No. 21087.0019U3

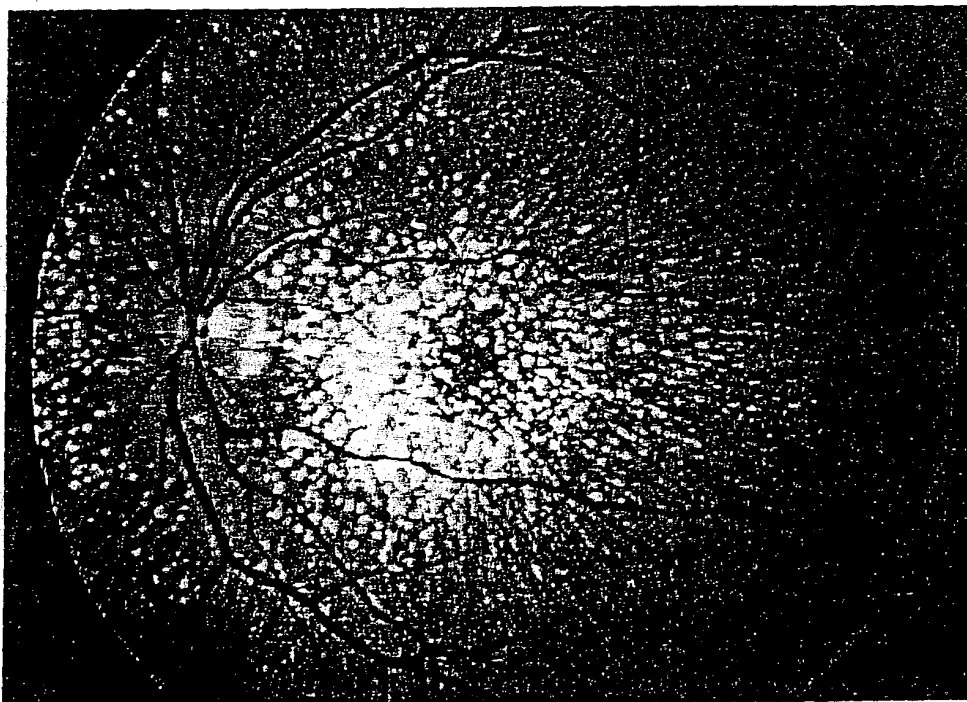


FIG.1

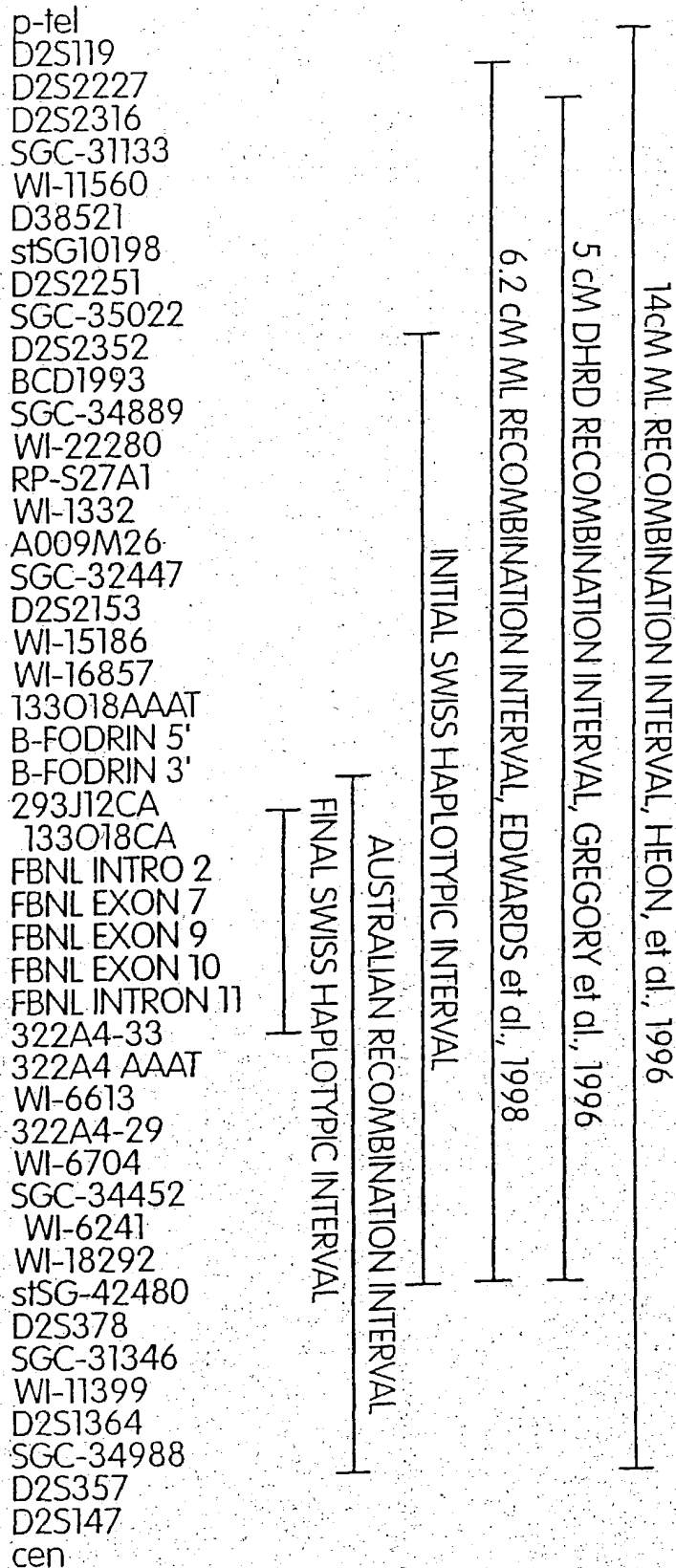
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Title: MACULAR DEGENERATION
DIAGNOSTICS AND THERAPEUTICS

Inventors: Stone *et al.*

Ref. No. 21087.0019U3

FIG. 2A



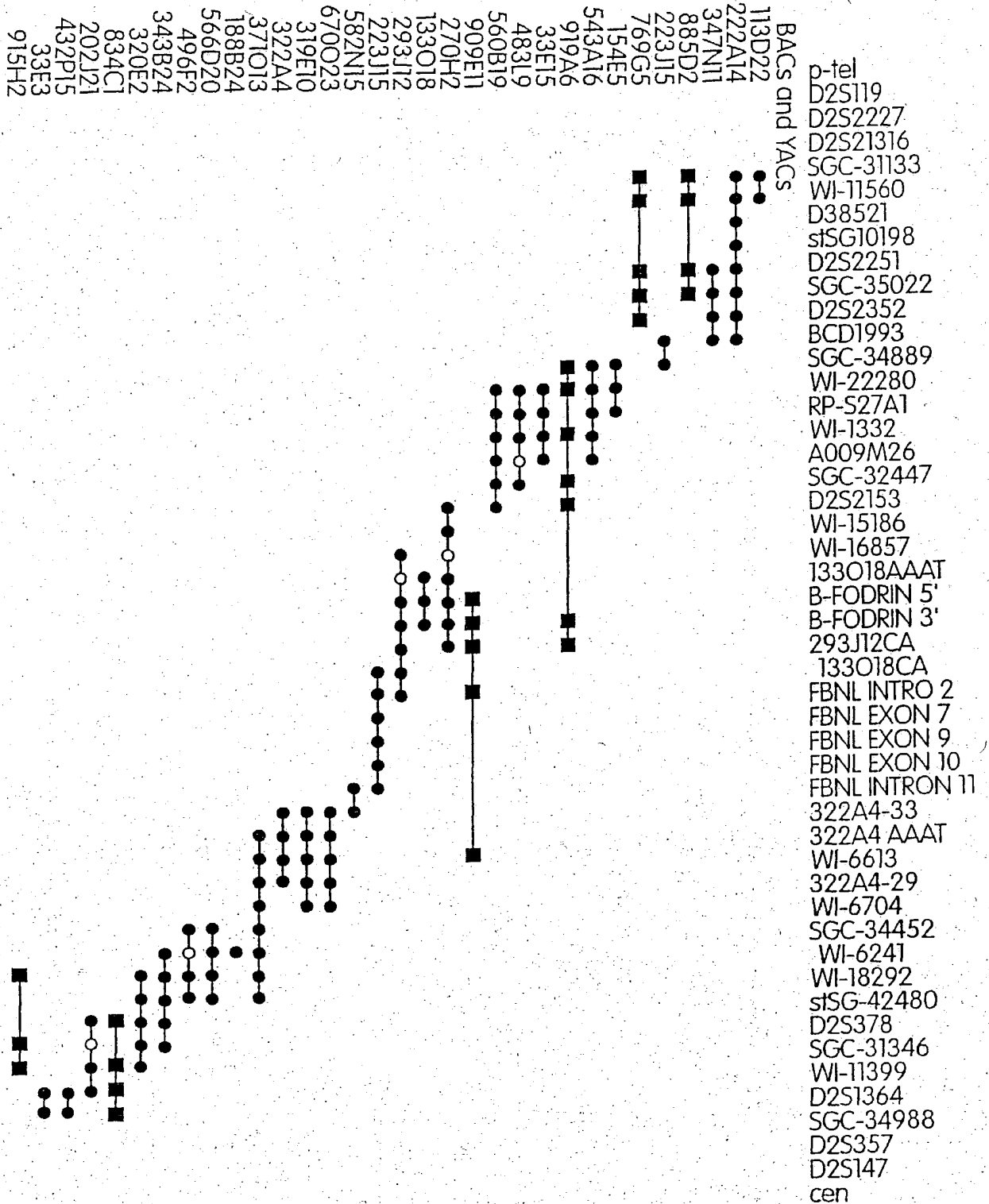


FIG. 2B

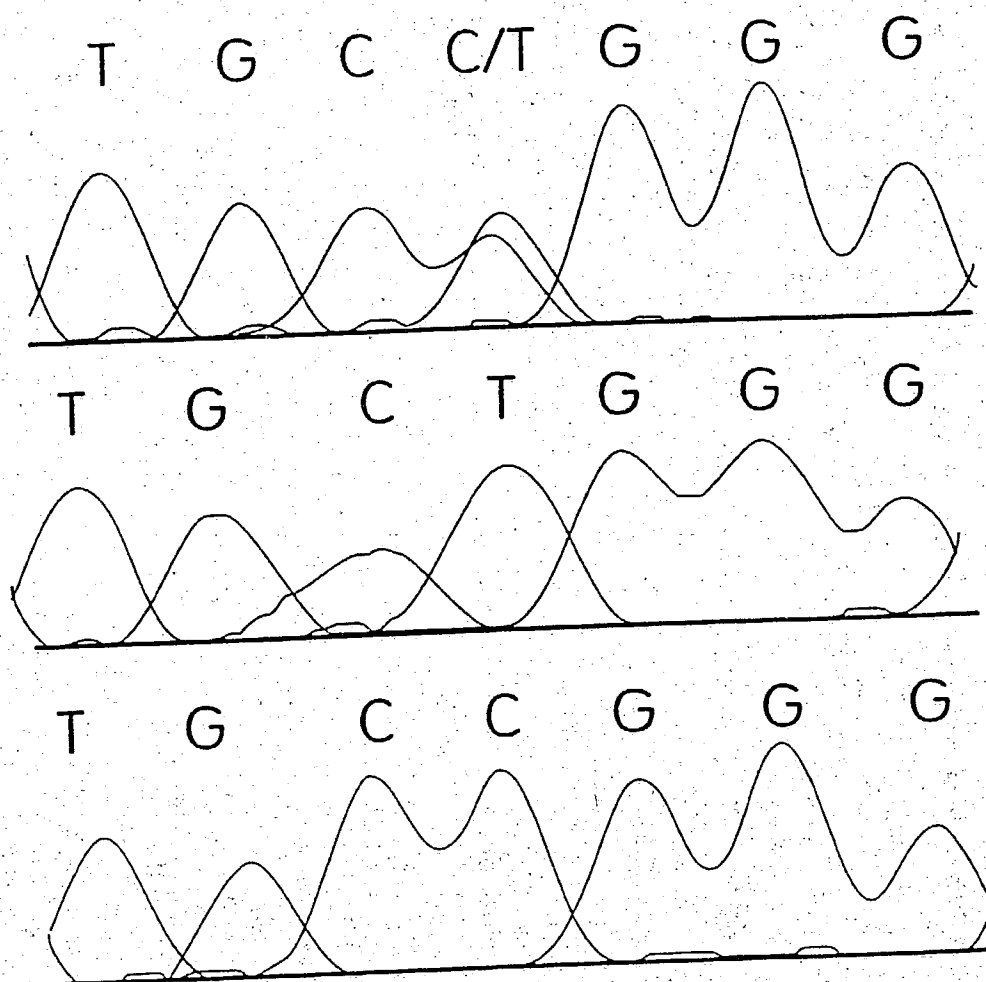
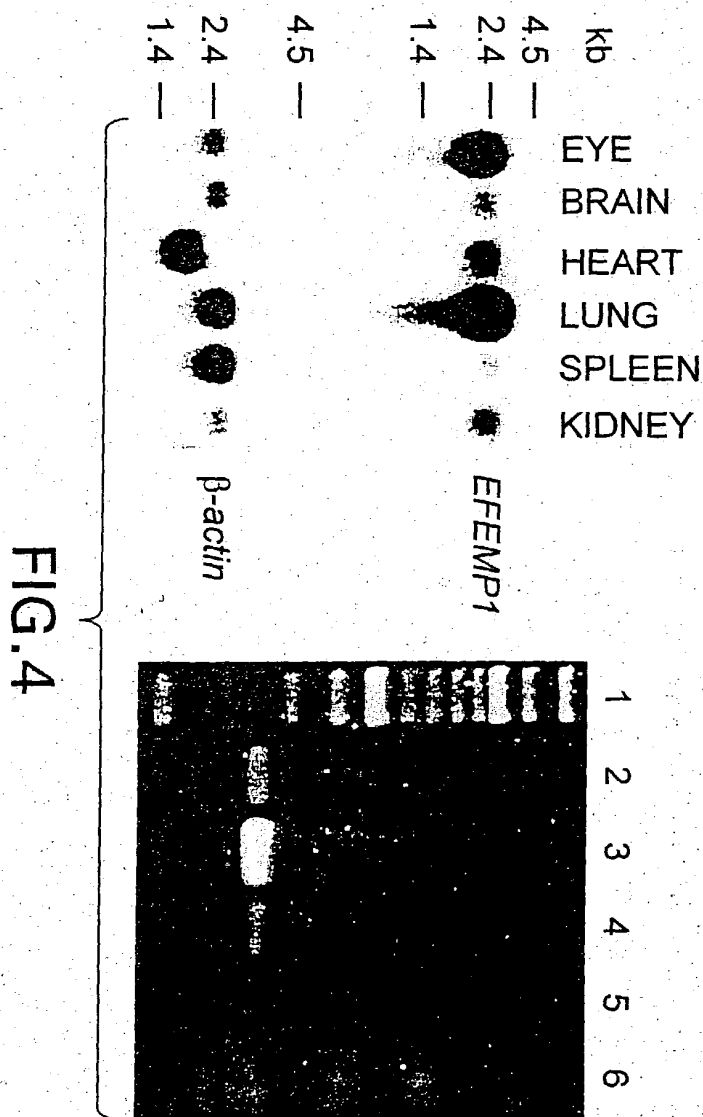


FIG. 3



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DIAGNOSTICS AND THERAPEUTICS

Exon 1

Inventors: Stone *et al.*

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Currently undetermined

exon 2 partial transcript

AGTGTGCGAGATTTAAGCCGCACCTGGATTCCATAGGAGCTGGTTAGAAGCTGGGACGCTGAGCAGCT
CCAGGGGACCGCCGCTTAGCTTGCTGTTAAGAAAGGGACCTCATCTCCCTGCCGGGCCAGGGCCGCC
CGCCCGAAACTGGTACCTTGGGCTGCGGTGCGATCCCTGGTTCGGTCTAGGCAGCCTGAAACCGAA
GGTAGCGTGTGGGGACCCAGACTGATAAGACAAAAGAGAATCAGTCGCTTTGGGCTGCCCTCCACA
CAACCTGGGACTTTTAAACAAAGCTGTGCGCAGAGAAAGGCGTGGAAATGCCACTTTGAGAGTTTGTG
CTGGGGGATGTGAGAAGCTCTGAGACATGTGAGAAGGTCTAGTATTCTACTAGAACTGGAAGATTGCT
CTCCGAGTTTTGTTTTGTTATTTTGTAAAAAATAAAAAGCTTGAGGCCAAGGCAATTCATATTGGCT
CACAGGTATTTTGTGCTGTGCAAGGAAGCTCTGCTAGCTCAAG (SEQ ID No. 46)

Complete intron 2

gtgagtatac tgggaaagcc ttaacgttct agagaacaga gttttgcagccccacctcca
tcccccgagg tgtgggactg gggggcagga aatgcaccgtccccctttgaa atggattact
gttttttctt ttcgaccccc tctttctgcagcctgctttg taggtgcagt ataaaatgca
cgctgaatgt cttttgtatgtaaacagcgt agcaggatgg agtaacgtga aatgcaattc
tacagcagtttttacgtctt tgctgcctcg ttcgttggt accgagaagg ttcaggaggggaggggaga
tgagaaagca gattggaagt tgagtatggt gtagcctcagcctctccca cctcctttc
ctcgcttggt ctcactgcta aagttttgtactttcccg cagcagatac taaacattag
tttgcctgt attttctttgag (SEQ ID No. 47)

Exon 3

ATTACAAATG TTGAAAGCCC TTTTCCTAAC TATGCTGACT CTGGCGCTGG TCAAGTCACA
GGACACCGAA GAAACCATCA CGTACACG (SEQ ID No. 48)

Start intron 3

gtaaggggtg atggaatttg aaataagtac gggtcagcgg gattctgtgacaaaaaaga ctttacacac
ccctgccagt gtaattgggc tatactctgctgaggggtgat aaattaaaca acatttcatt catgcttcat
atctaagattcgttgtaaat tgcccccttg atcctttcaa aagttcattg ggctcaccacctaagatagg
aaccaacatg taatcatttg tgcagggtta aaaatggggtccgttcaaaa actaaaacca aagaaagtta
catgtttcca aaacattcaacaaattaatg ggtgtaagga actggaaaac ctggactcct
accacatgcagataaaaacca atacgtgcag aataagactc aagtcaagta agaacgttaaacaccataaa
gacacatggccttctttgtgtacatgacatgcattctcaagtaagtggcctttattgaatttataaaggctata
tattcattctttttgtataacttg ataattctaataataaaggcagacaacagtttatgtgttaccaggatg
catattggctaaagtgggttttaaacgtaatgtgtgcaactccgttttgcattttctaatttagcgtct
ctgatatttccaagtaatatattgattagttagttgcataggtgtaaccaatgtttaataaaatattaaaaagat
cacctgacccctcccactgctacaaatagttgtggtgagaac agagaaggacagtactgacttcacttctggt
gagtttggttgacactctgttctgtgttttctgtcttttaaatcagtgttaggcaaatgacatttgcctggatt
ggaatatgaaaa gcacatttttctactgctcccagtttaaaattaagtaatectactcgaaagaatgtgaaa
aatttttgaaaagaaaactcttaaaaatgaactaatgtcaattactgataataaac attatctcactttttg
taccacattatccctagaatgttagtattcatctggcaaatgttctttctgttgttcagatccactataaat
aaaatagcttaatacaaatattttgttaact tcatgttaaatgcagttgcttctctgctgaagataaattaa
gcaagaaaaatgaaggcatgtgctgkttatcttaaaatgaaaatgktttgkttatcagactaaacttactgcc
ttctcangggagctaaaattaattcactacccacttttataatcatctcataaaagattttacttcttttcca
gttgc (SEQ ID No. 49)

FIG.5A

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End intron 3

aaaatgcctg gttttcagaa ggggggtycc ataggctgtt tgttcagnggggngctaar gaggnnattt
gaagctgggg actgttnggg ggaacccnctgttcctttg gagcttaant tanggagcng gtcagggggg
gaaanggaggggctttaatn ctgtanagg ntttnaaaaa aaaaaaaaaa ntccngggctggttnggggt
ggggngggg gaaagggcca agaaaaaaaa aaaaaatggtntttttttt tttacattt ccaatgtggg
aaaaaaggca aattaataaagagcagtcag agaagtgtga gaagattagt ctcaaaacag
aaaagaagatggtactgggc anctgtacca aaaagaacag aagagtttag gcagctgatggttgagaatg
gacccccgaa gctgtccaat gcacagactt gtcttttgaaaaaaagcga tagaatgtta aaccacccat
ctcatcatat atctaggacttttagcacaag gattgttgcc ataagaatga agctttttaga
gtgatttcttagggaatgga cacaccaatt aactgtctcc tggccccacc tttgatgttttcttcacag
(SEQ ID No. 50)

Exon 4

CAATGCACTG ACGGATATGA GTGGGATCCT GTGAGACAGC AATGCAAAG (SEQ ID No. 51)

complete intron 4

gtgagccagcttcaaagacttccatgtgatcattgccttctgtctccatctcttgtgtcactcttcctgtcctgt
ctgtgttataccaaaaaggcatgagcattatattacatgtttgatttttccctcttagaarattcctgacttat
tttattactgaccacag (SEQ ID No. 52)

Exon 5

ATATTGATGA ATGTGACATT GTCCCAGACG CTTGTAAAGG TGAATGAAG TGTGTCAACC
ACTATGGAGG ATACCTCTGC CTTCCGAAAA CAGCCAGAT TATTGTCAAT AATGAACAGC
CTCAGCAGGA AACACAACCA GCAGAAGGAA CCTCAGGGGC AACCACCGGG GTTGTAGCTG
CCAGCAGCAT GGCAACCACT GGAGTGTTC CCGGGGGTGG TTTTGTGGCC AGTGTGCTG
CAGTCGAGG CCCTGAAATG CAGACTGGCC GAAATAACTT TGTCATCCGG CGGAACCCAG
CTGACCCTCA GCGATTCCC TCCAACCTT CCCACCGTAT CCAGTGTGCA GCAGGCTACG
AGCAAAGTGA ACACAACGTG TGCCAAG (SEQ ID No. 53)

Start intron 5

Gtaggaataacttattttcctaaccattgaaagctgcaggagaacccccatgaagcttgaattcggatcca
cgttg (SEQ ID No. 54)

End intron 5

Tttggcattctgaaattttgcaatgaaagatttatacawacatgttgccctgctgtttggcaaaaaacaaacagc
tacmgggraacggtataatattaaaggttgatwacacccagttattggttagatttttagaaatttgtcaatgga
aattatctcaaatacaatatattggatggaaaagcaagtatcatacaatctattaaaatttttaacatacaaaac
aataccatatgttctaattggtatgcattcctgtctacaaaagtacaaaaacatctcaggggaaggattcattccta
ccgagacagtggttagctgatgggtcaagggtgaggatggtgtgaggcttttagctgtatctgaaatgtttcttaa
caaaacaaatgagccaagaccaacatgacaaaatgttagcatttgttaaatctgagcagtactcactgggtattt
gcaaaattattttctgaacacttgaaataatttataatttttaacatttccaatgcaagaacattataaactttt
aagaataaagtwaatttttagcttaagaagtggcmaaatggargaaatatcaacatcttcacaactgacaatytt
tytstgtgctwgyatgtctswgacag (SEQ ID No. 55)

Exon 6

ACATAGACGA GTGCACTGCA GGGACGCACA ACTGTAGAGC AGACCAAGTG TGCATCAATT
TACGGGGATC CTTTGCATGT CAGTGCCCTC CTGGATATCA GAAGCGAGGG GAGCAGTGCG TAG
(SEQ ID No. 56)

FIG.5B

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Start intron 6

Inventors: Stone *et al.*

Ref. No. 21087.0019U3

Gtaagtaccacagtgagtgagcagcggctcctgtcttgagtaccttaactgtttcaacctcaagcattccaatc
aaagcattcatgtttctttggagagtggttagccaataattccttattttttatagactaccaatccattttc
cacaataacaagaacaacctaaggttgaggcaggagaaccccatgaagcttgaattc
(SEQ ID No. 57)

End intron 6

Aaactgacatcttatatatatatgcaatagtctcaattattttgttttctttaaatctcaatccaccaccaa
gtttatttaccactgaatggcatgaacattgagtcctttgttcttaacttcttaactcagaatacaaagtatat
ttaaatacatataccctaatttttaacaaaataggaaattattacttttaaaaagagattttctctacatagg
ttttctagataatgcttttcagagaatgctaattcaataatttggttctctttgtgtgtgtgcctgataacctag
(SEQ ID No. 58)

Exon 7

ACATAGATGA ATGTACCATC CCTCCATATT GCCACCAAAG ATGCGTGAAT ACACCAGGCT
CATTTTATTG CCAGTGCAGT CCTGGGTTTC AATTGGCAGC AAACAACAT ACCTGCGTAG
(SEQ ID No. 59)

Start intron 7

Gtaagccttttgagaacttgctgatttctgtcttcacaaaaggaaaccccatgccatgttgcagtatttccagt
tttctatgttcttgagtaaatagtttccatcgacttcccttcagcaatcataaagytcaggagaaccccatga
agcttgaattcggatccacgtgg (SEQ ID No. 60)

End intron 7

aaactttccactgaaagtgcattcttgatttttacatgccttttctccctttcagaaatgcaatgtcacgg
:cacaacaattaaaagattggcatgacatgggaaaaaa:tctagtgrggaaaaatgccttttcaacaatattt
t:cagtgttttagaagcattgcaaaactccgtatgggttctcaaaggcttatgttataattgtaatggaattta
acagaacccatttaaaaaagttaataa:atagccacagataaatcttccagtaccagcattgcctgaagaagac
catatccagtataagttgtcttatawcaattatttatagaaattggcattttgtwtcttgaaccaacaaaagaa
aaatccgaat:mccggaaktgttatattttwttagaagcattaaattcctttggnagattnatcacacatcna
ctaactgtcattcctagaaaaaatatttcggtatttccnaaagaagtatatgacagacgtttgtagttgttccc
acaaatatanaccnaaatggatgttctccagtgtgcttctgcagggcaataattcagctaggggaattactca
cttgtcagcagatgacgtaggtacaaaagagtaaggatatgtttaaagtstaymtatatmtgtgtgtataya
tatacatatacaymwmymtatayatamratTTTTTtcwag (SEQ ID No. 61)

Exon 8

ATATAATGA ATGTGATGCC AGCAATCAAT GTGCTCAGCA GTGCTACAAC ATTCTTGGTT
CATTCATCTG TCAGTGCAAT CAAGGATATG AGCTAAGCAG TGACAGGCTC AACTGTGAAG
(SEQ ID No. 62)

FIG.5C

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Exon 12

CAAACAAGTC CTGTAAGTGC AATGCTTGTG CTCGTGAAGT CATTATCAGG ACCAAGAGAA
CATATCGTGG ACCTGGAGAT GCTGACAGTC AGCAGTATAG GGACCTTCCG CACAAGCTCT
GTGTTAAGAT TGACAATAAT AGTGGGGCCA TTTTCATTTT AG (SEQ ID No. 73)

3' utr

tcttttctaa gagtcaacca caggcattta agtcagccaa agaattttgt taccttaaag
cactatttta tttatagata tatctagtgc atctacatct ctatactgta cactcaccca
taacaaacaa ttacaccatg gtataaagtg ggcatttaat atgtaaagat tcaaagtttg
tctttattac tatatgtaaattagacatta atccactaaa ctggtcttct tcaagagagc
taagtataca ctatctggtg aaacttggat tctttcctat aaaagtggga ccaagcaatg
atgatcttct gtggtgctta aggaaactta ctagagctcc actaacagtc tcataaggag
gcagccatca taaccattga atagcatgca agggtaagaatgagttttta actgctttgt
aagaaaatgg aaaaggtaa taaagatatatttctttaga aaatggggat ctgccatatt
tgtgttggtt tttattttcatatccagcct aaagggtggtt gtttattata tagtaataaa
tcattgctgtacaacatgct ggtttctgta gggatattttt aattttgtca gaaatttttagattgtgaata
ttttgtaaaa aacagtaagc aaaattttcc agaattccaaaatgaacca gataccctt agaaaattat
actattgaga aatctatggggaggatata gaaaataaat tccttctaaa ccacattgga
actgacctgaagaagcaaac tcggaaaata taataacatc cctgaattca ggcattcacaagatgcagaa
caaaatggat aaaaggat tcaactggaga agttttaatttctaagtaaa atttaaatcc taacacttca
ctaatttata actaaaattttctcatcttcg tacttgatgc tcacagagga agaaaatgat
gatggtttttattcctggca tccagagtga cagtgaactt aagcaaatta ccctcctacccaattctatg
gaatatttta tacgtctcct tgtttaaaat ctgactgctttactttgatg tatcatattt ttaaataaaa
ataaatattc ctttagaagatcactctaaaa
(SEQ ID No. 74)

FIG.5F

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M LKALFLTMLTL ALVKSQDTE ETITYTQCTD GYEWDPVRQQ
CKDIDECDIV PDACKGGMKC VNHYGGYLCL PKTAQIIVNN EQPQETQPA
EGTSGATTGV VAASSMATSG VLPGGGFVAS AAVAGPEMQ TGRNNFVIRR
NPADPQRIPS NPSHRIQCAA GYEQSEHNCV QDIDECTAGT HNCRADQVCI
NLRGSFACQC PPGYQKRGEQ CVDIDECTIP PSYCHQRCVNT PGSFYCQCSP
GFQLAANNYT CVDINECDAS NQCAQQCYNI LGSFICQCNO GYELSSDRLN
CEDIDECRTS SYLCQYQCVN EPGKFSCMCP QGYQVVRST CQDINECET
NECREDEMCW NYHGGFRCYP RNPQDPYIL TPENRCVCPV SNAMCRELPQ
SIVYKYSIR SDRSVPSDIF QIQATTIYAN TINTFRIKSG NENGEFYLRQ
TSPVSAMLVL VKSLSGPREH IVDLEMLTVS SIGTFRTSSV LRLTIIVGPF
SF (SEQ ID NO.: 2)

FIG.6